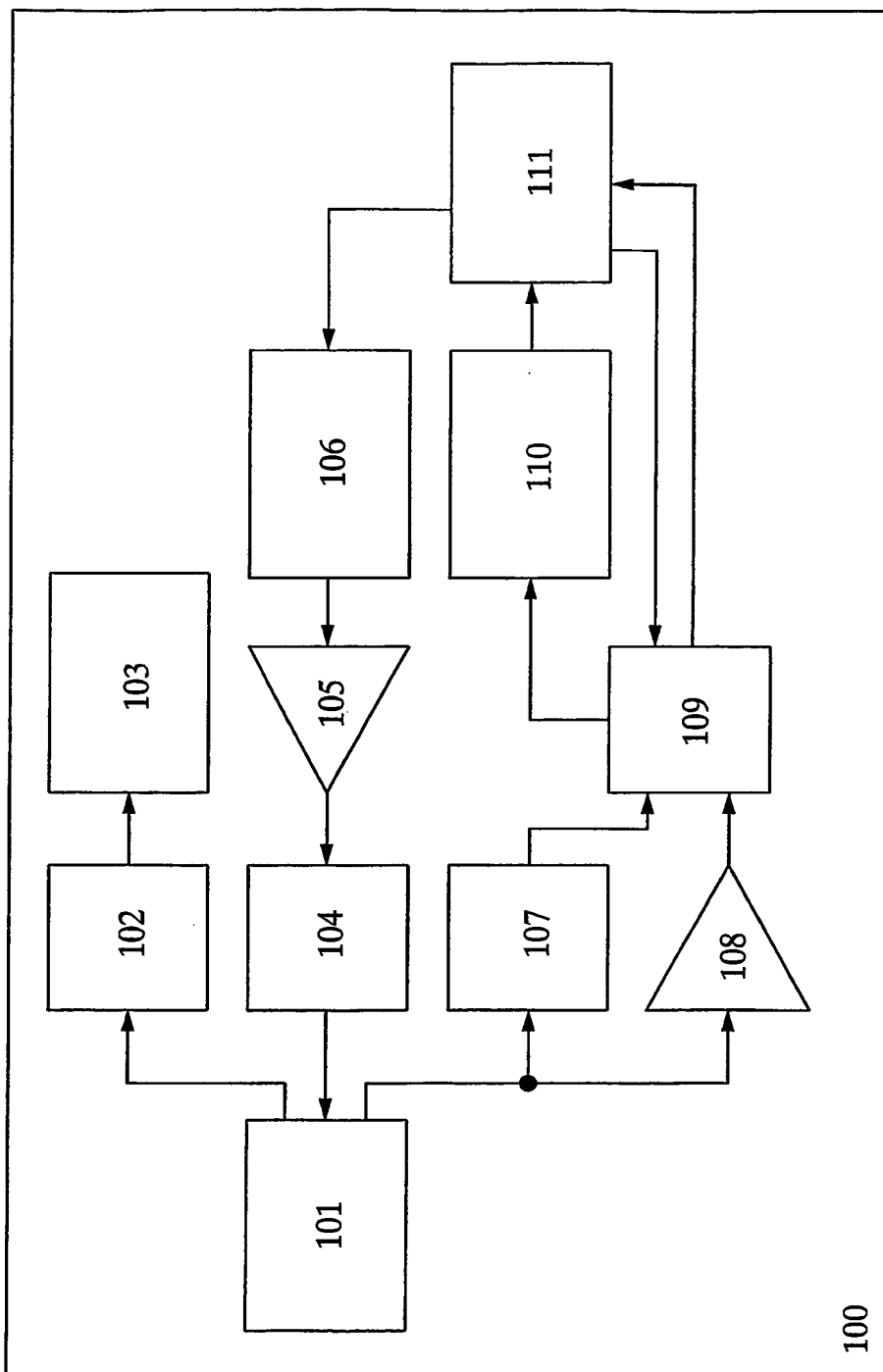


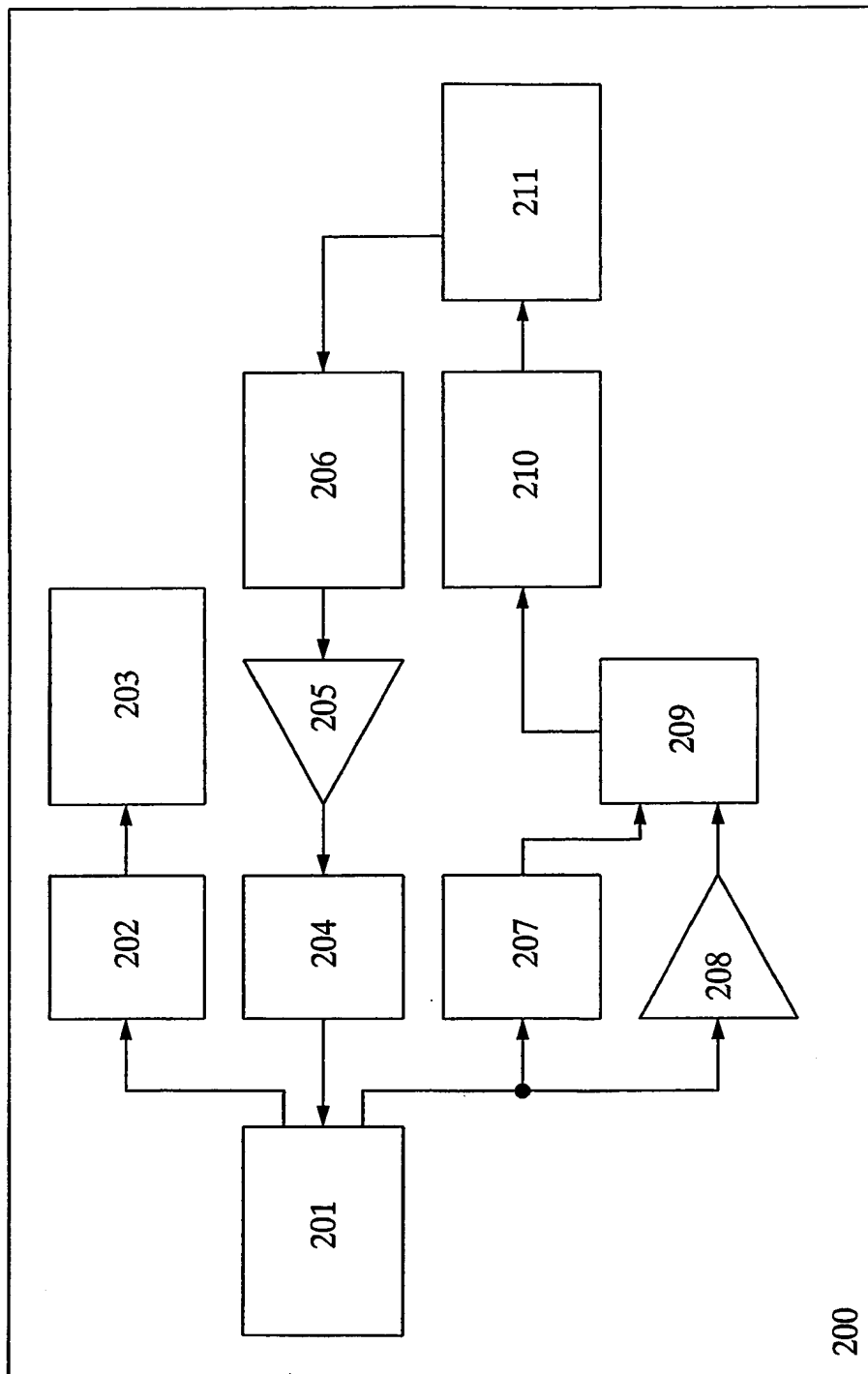
1/31

FIG. 1



2/31

FIG. 2



3/31

FIG. 3A

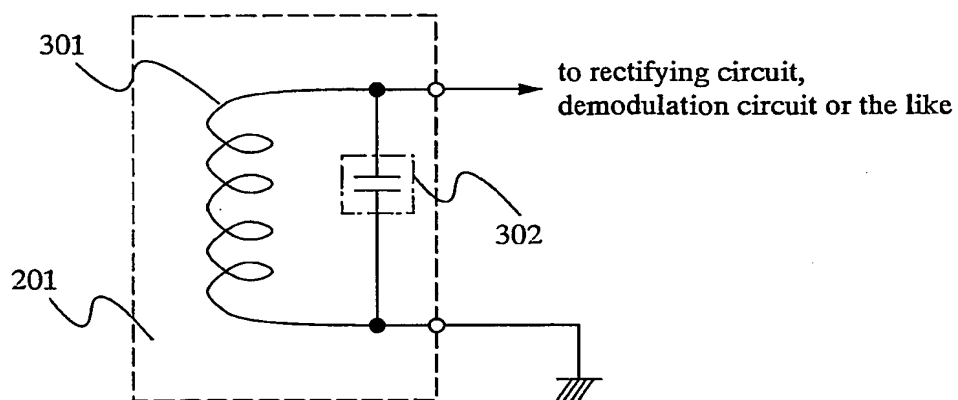
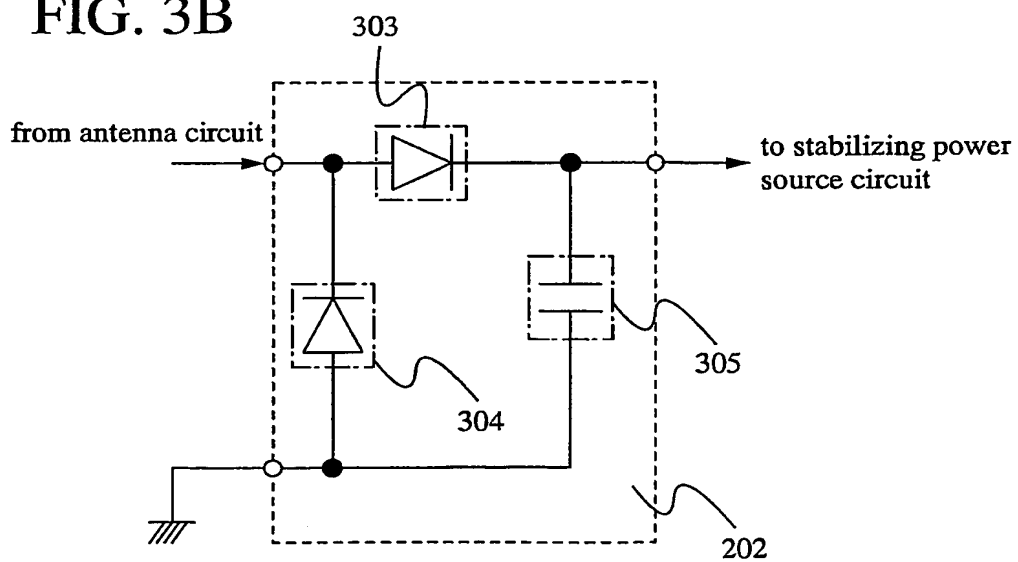
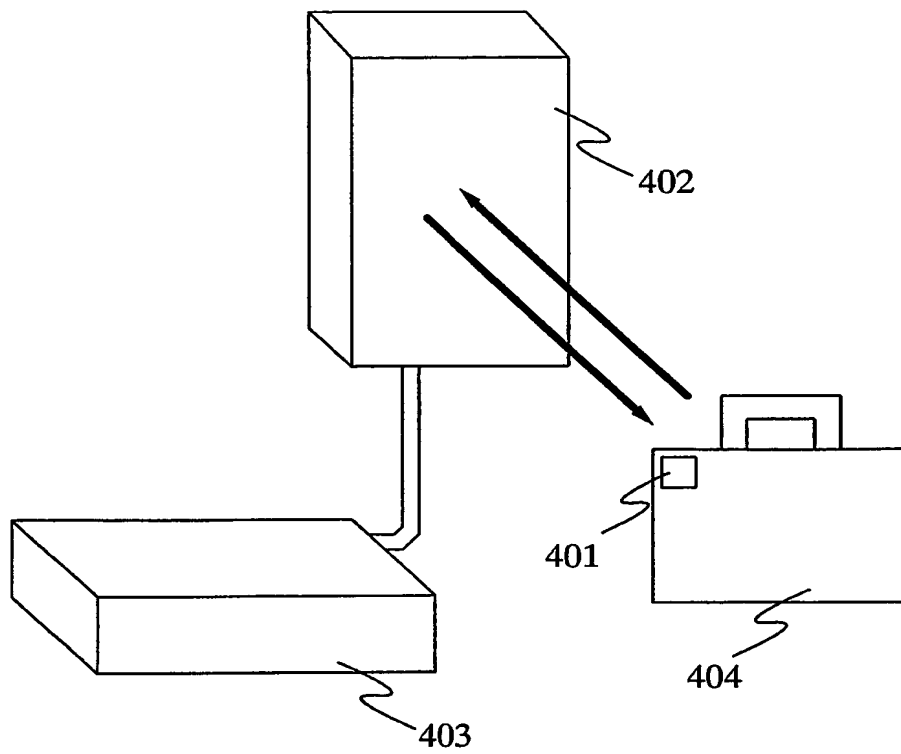


FIG. 3B



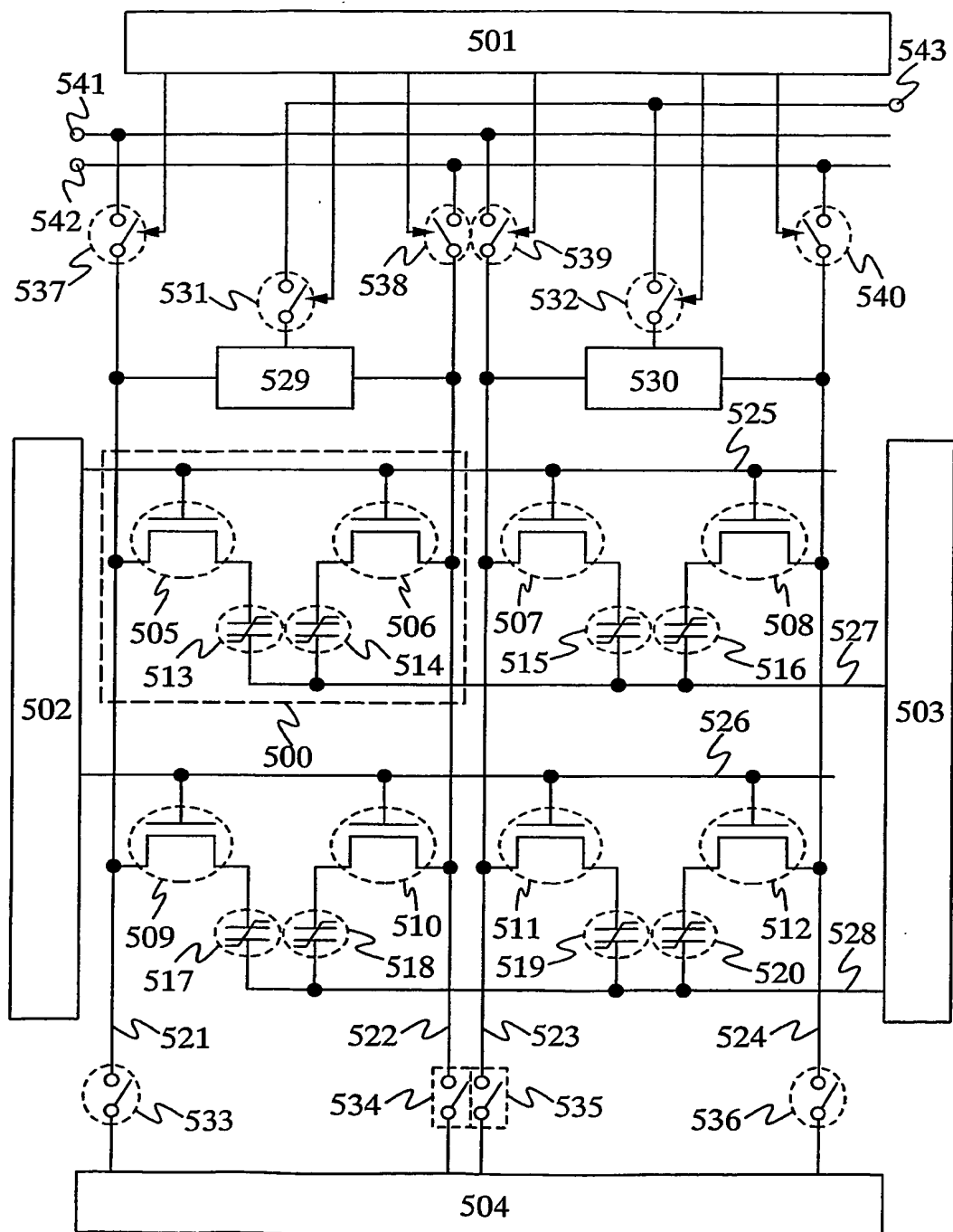
4/31

FIG. 4



5/31

FIG. 5



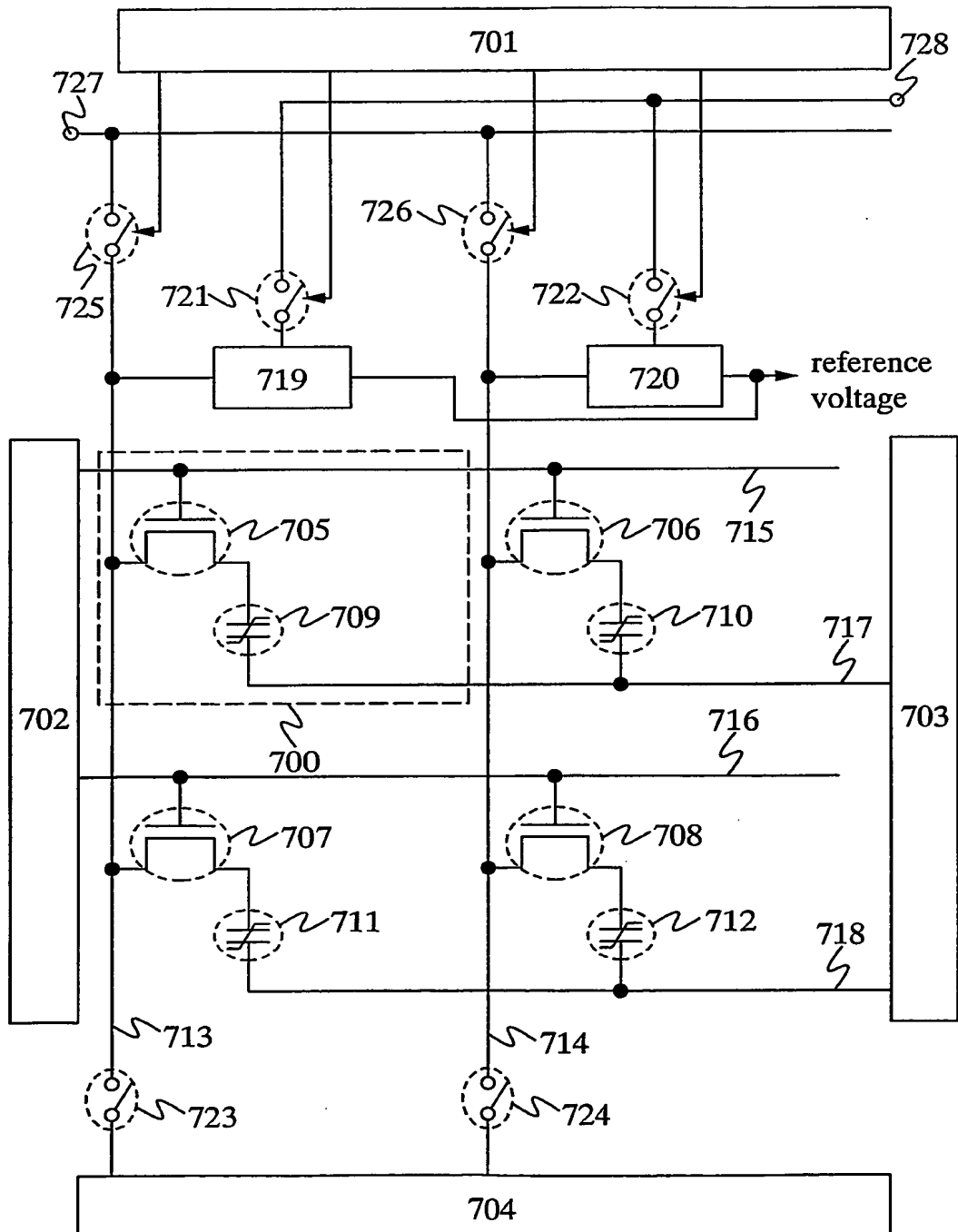
6/31

FIG. 6

top electrode layer (Ir/IrO ₂ or the like)
ferroelectric layer (PZT or the like)
bottom electrode layer (Pt/IrO ₂ or the like)

7/31

FIG. 7



8/31

FIG. 8

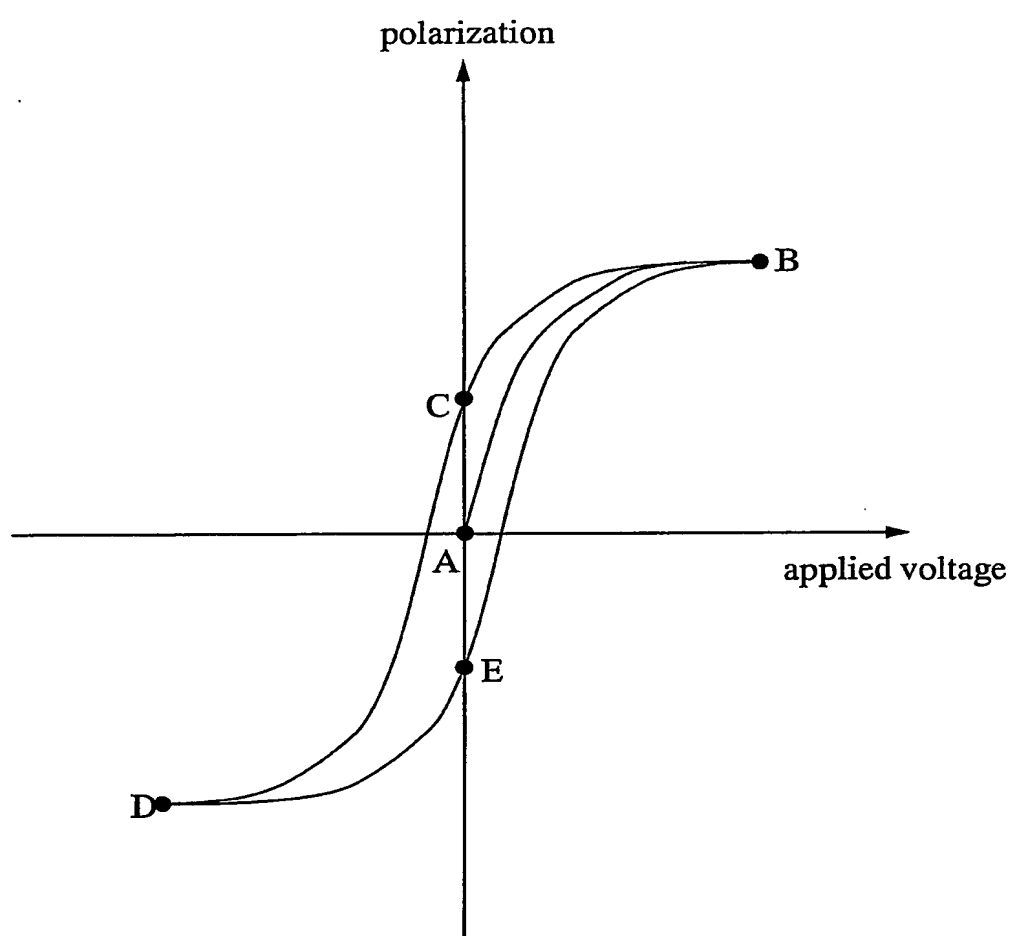
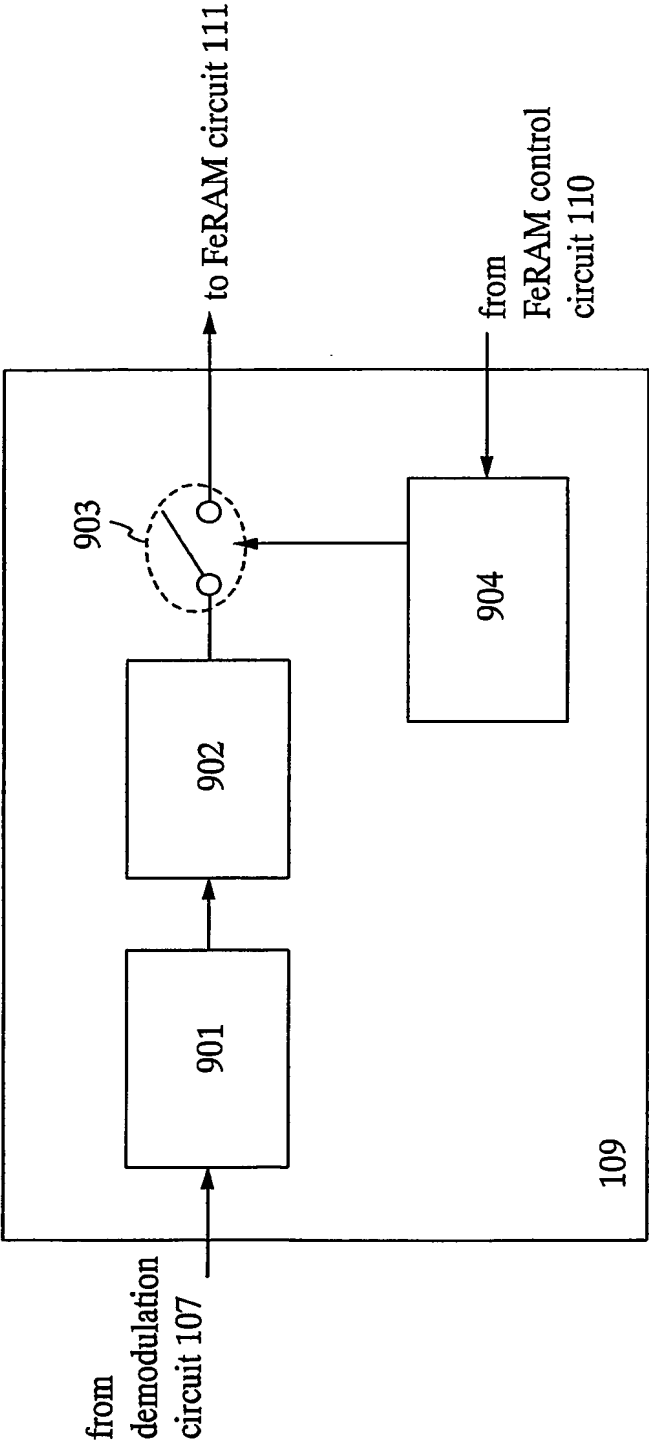


FIG. 9



10/31

FIG. 10A

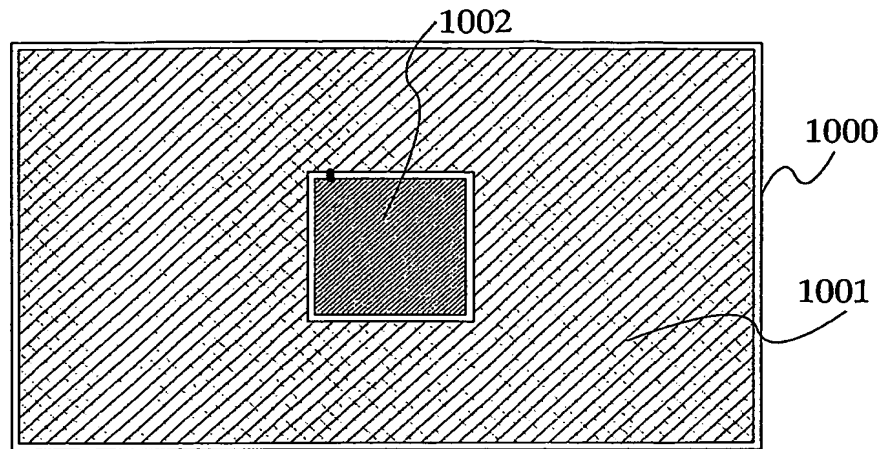


FIG. 10B

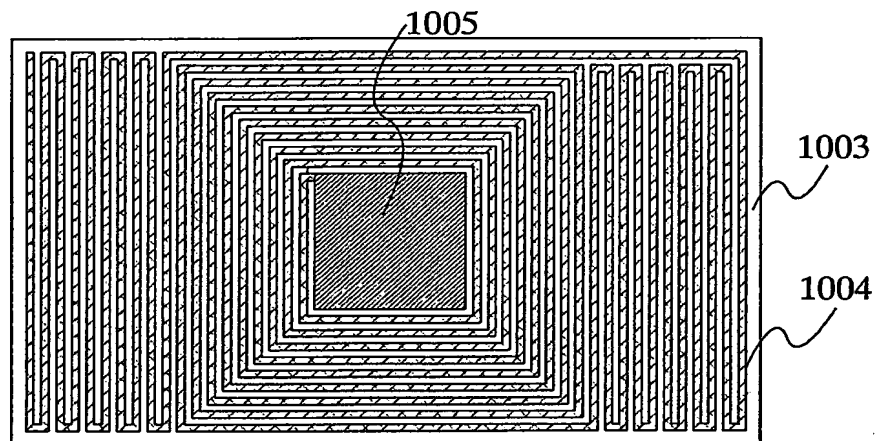


FIG. 10C

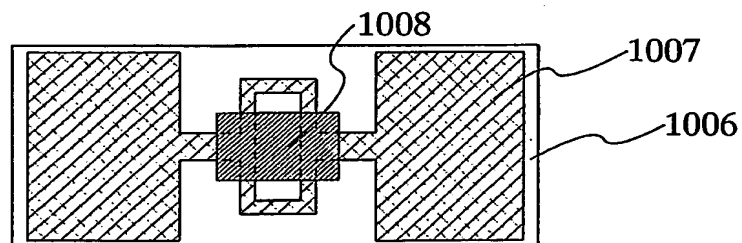


FIG. 10D

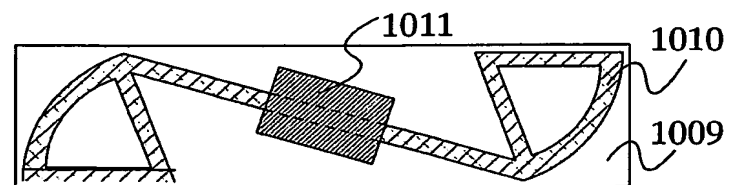
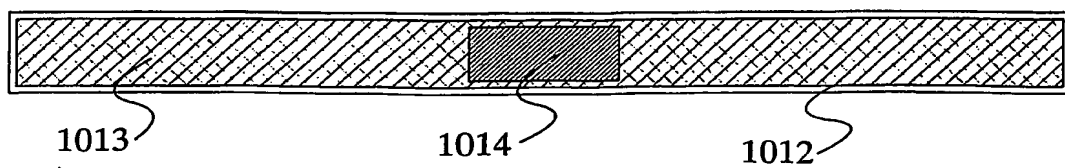


FIG. 10E



11/31

FIG. 11A

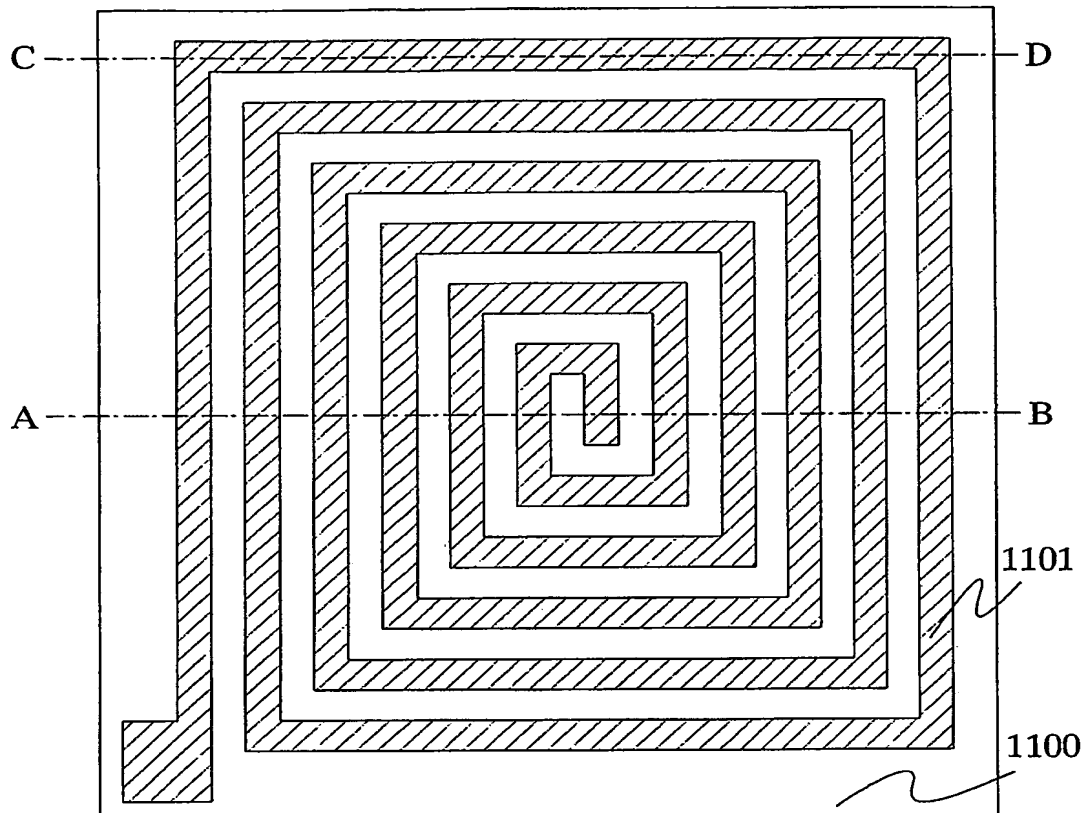


FIG. 11B

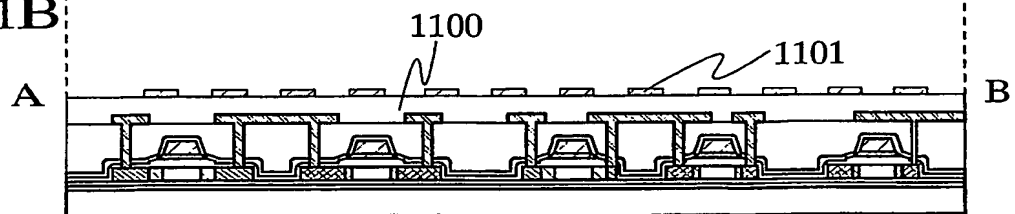


FIG. 11C

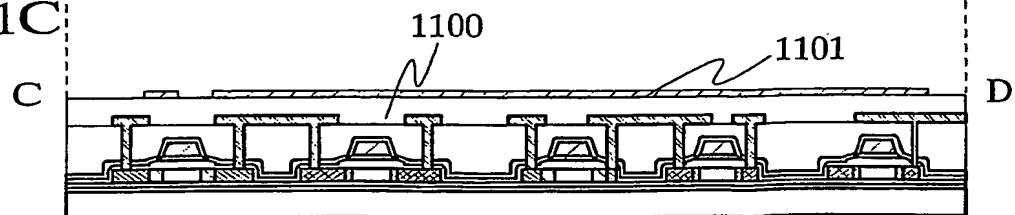


FIG. 12A



FIG. 12B

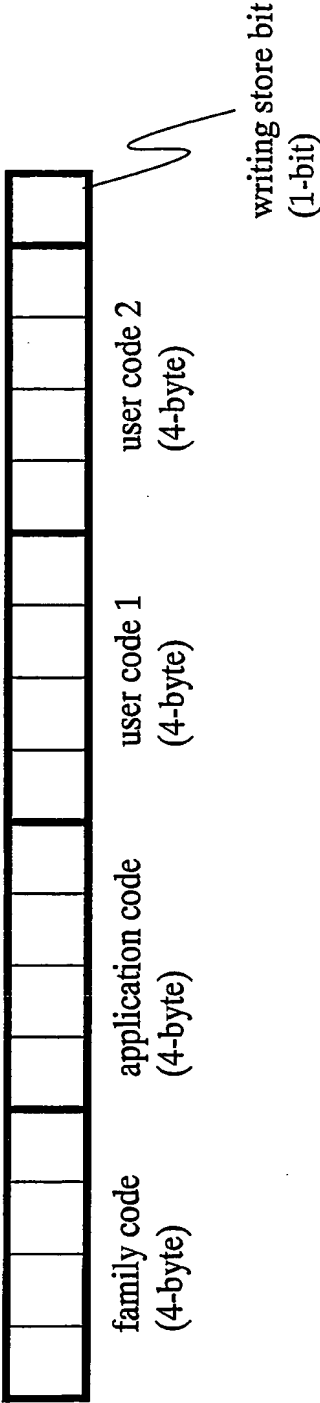
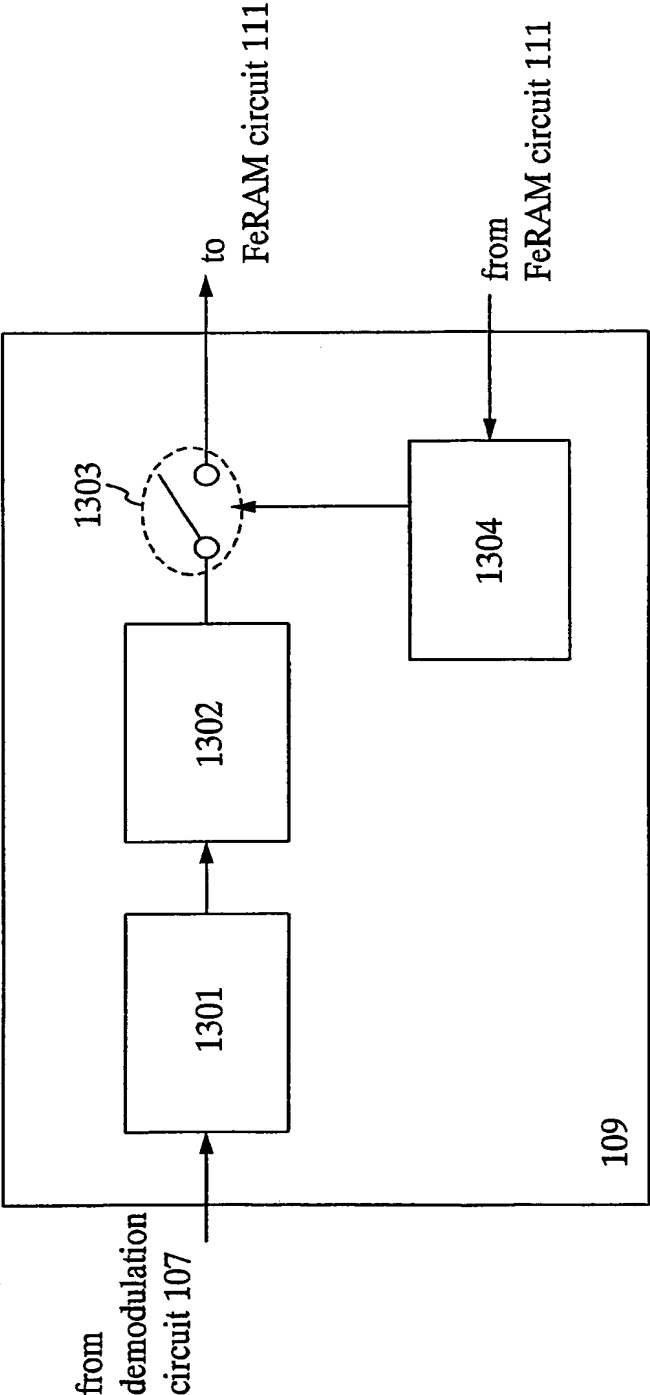


FIG. 13



14/31

FIG. 14A

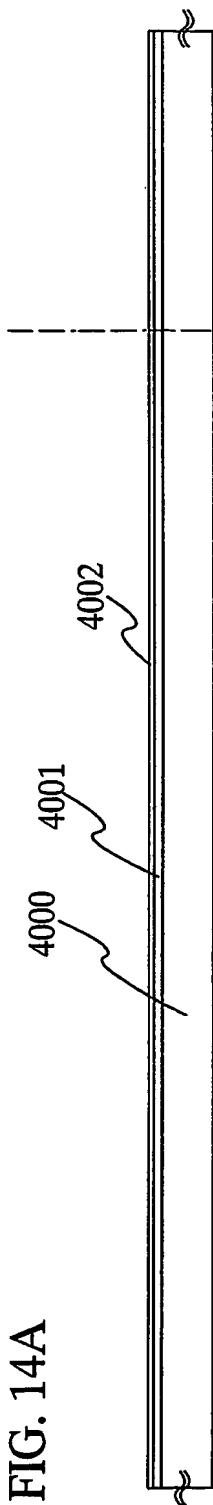


FIG. 14B

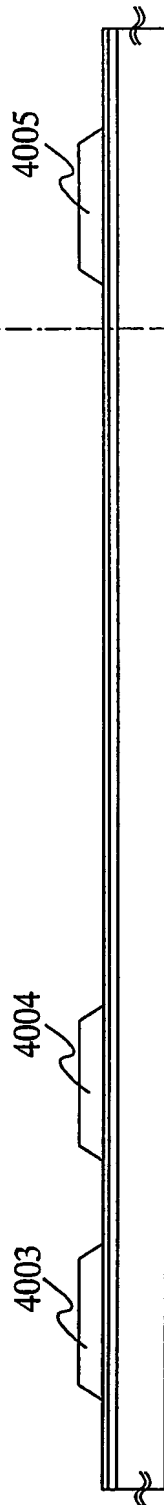
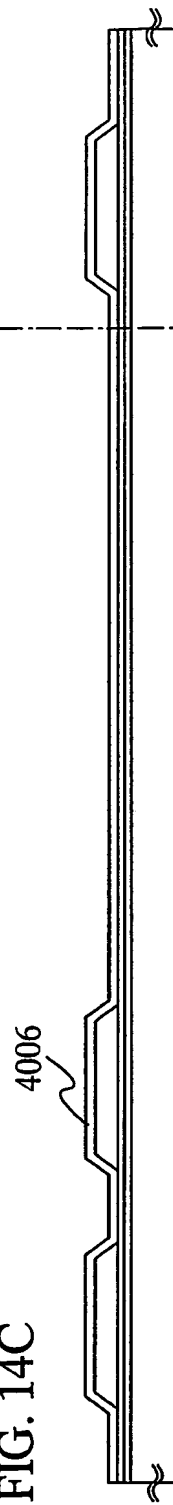


FIG. 14C



15/31

FIG. 15A

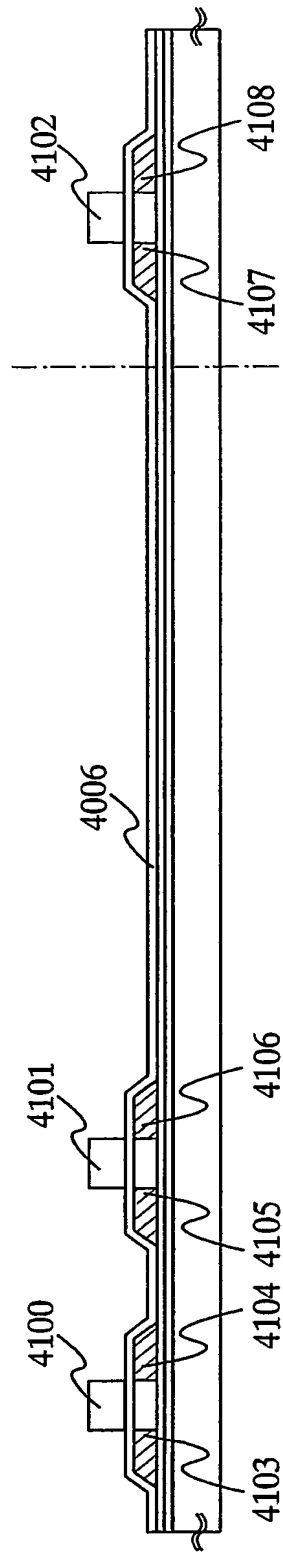


FIG. 15B

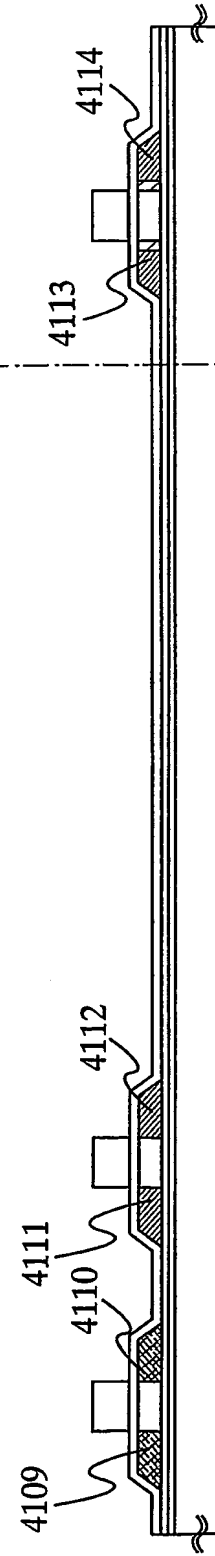
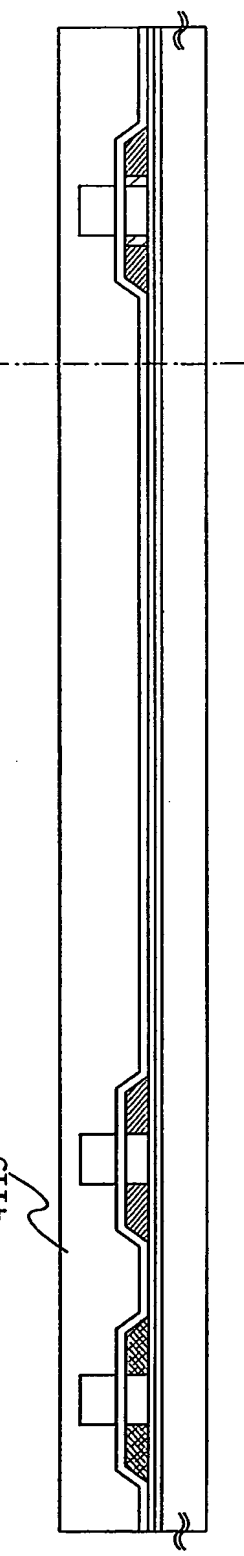
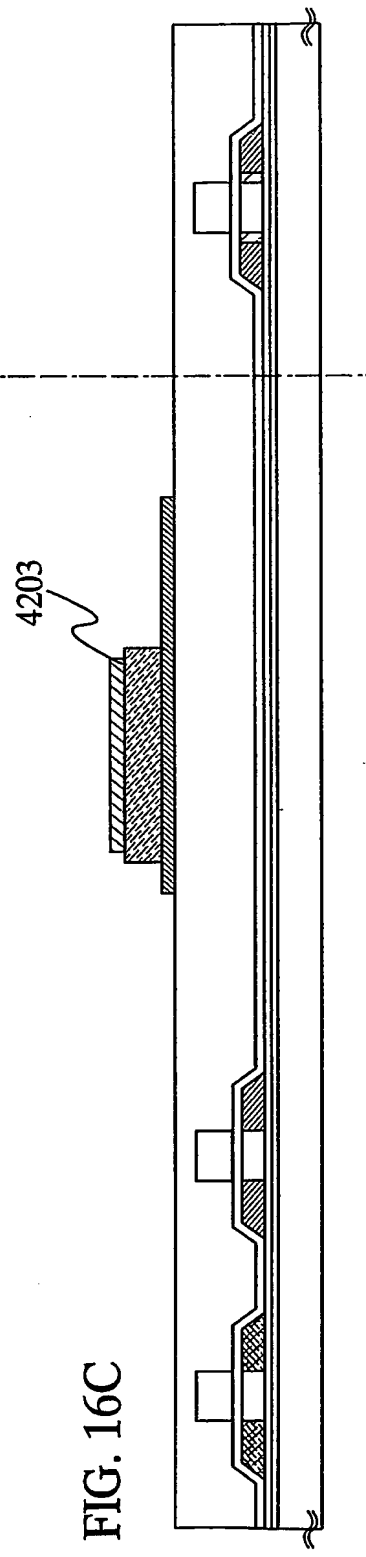
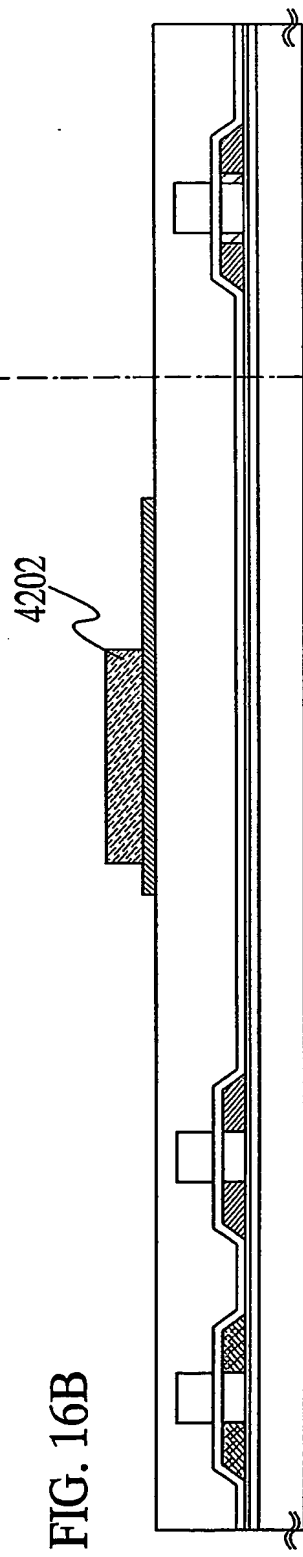
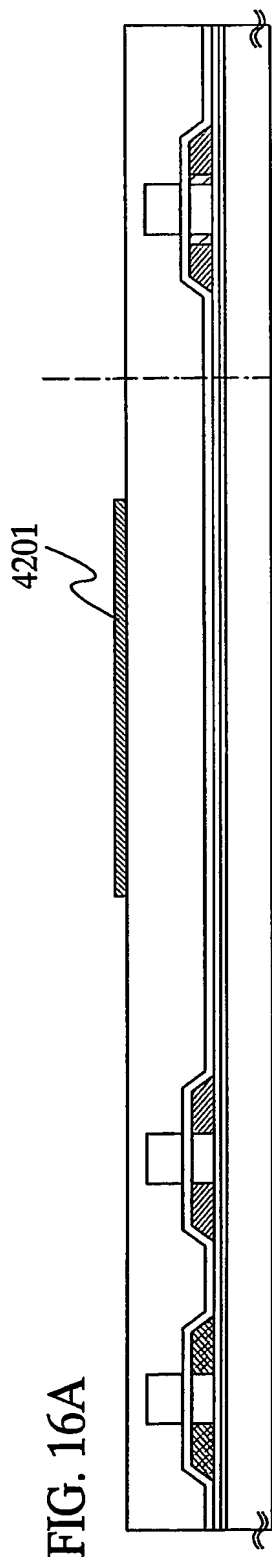


FIG. 15C



16/31



17/31

FIG. 17A

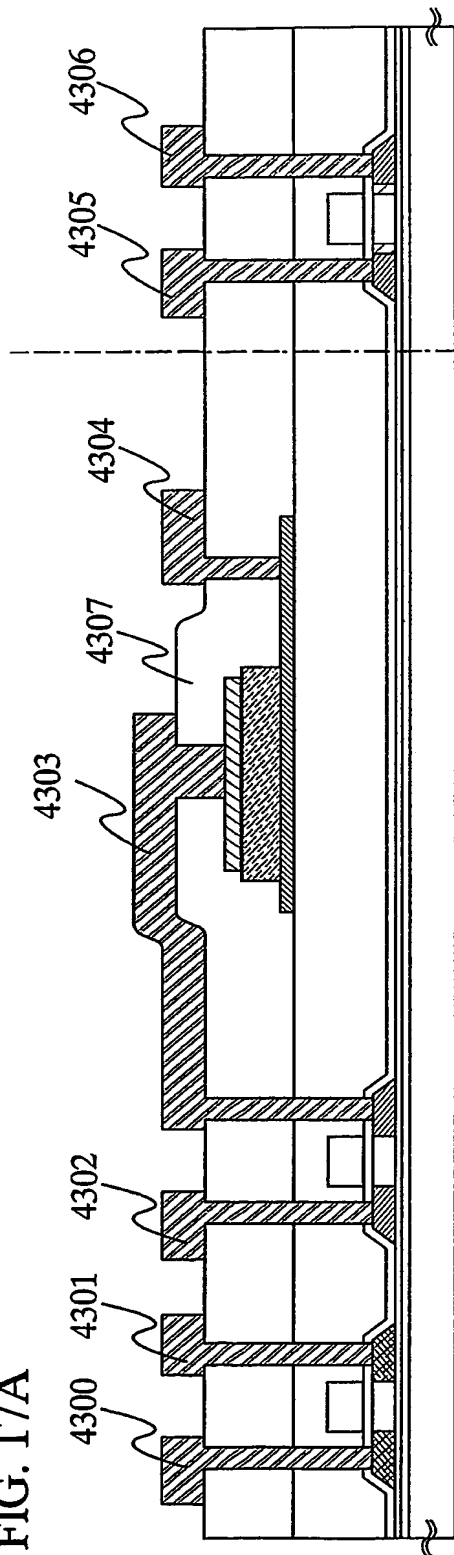
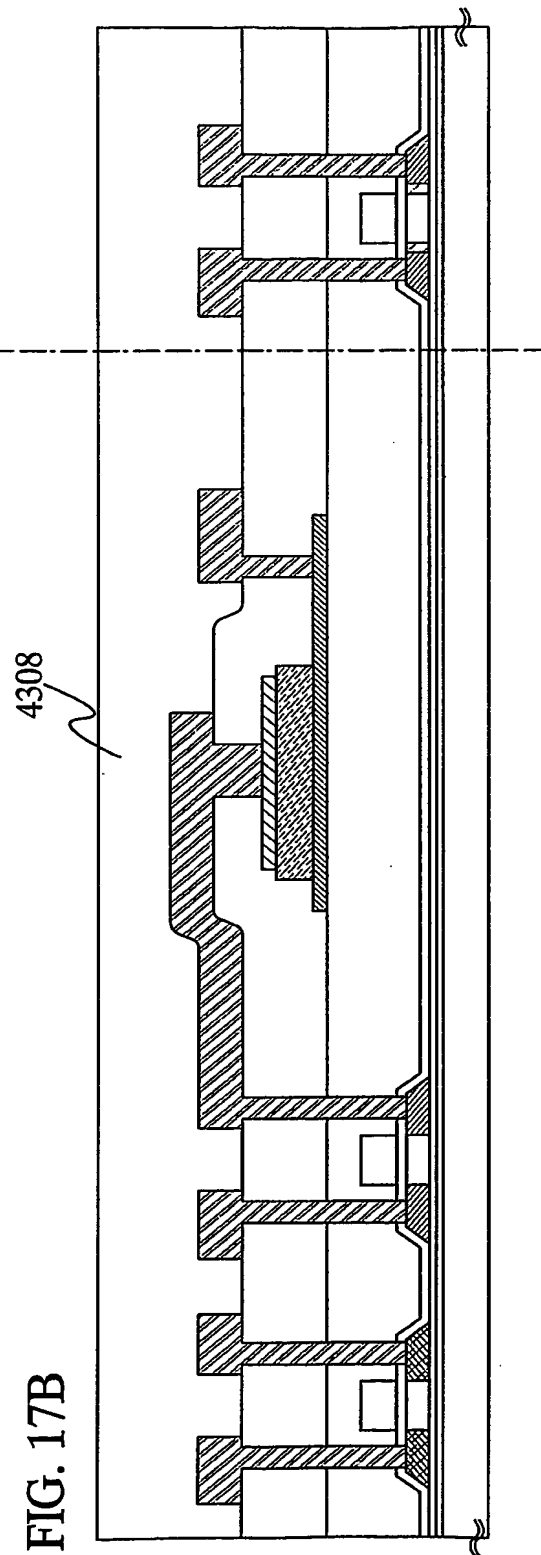


FIG. 17B



18/31

FIG. 18A

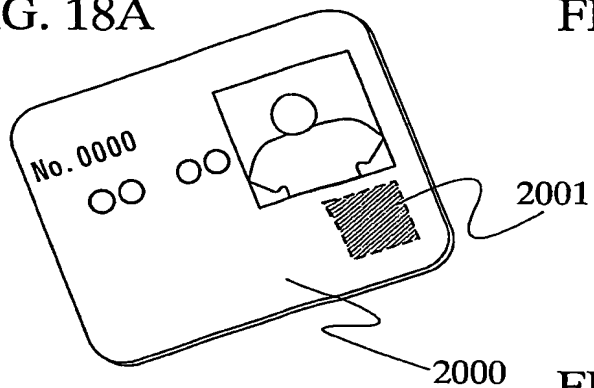


FIG. 18B

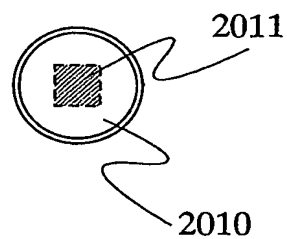


FIG. 18C

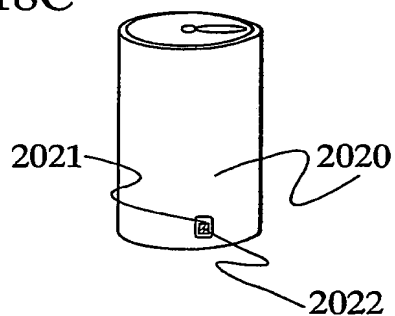


FIG. 18D

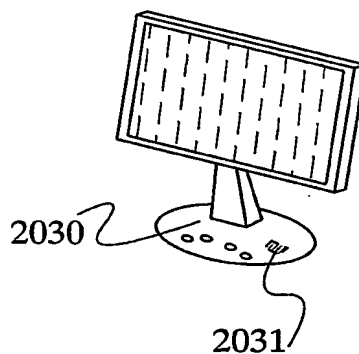


FIG. 18E

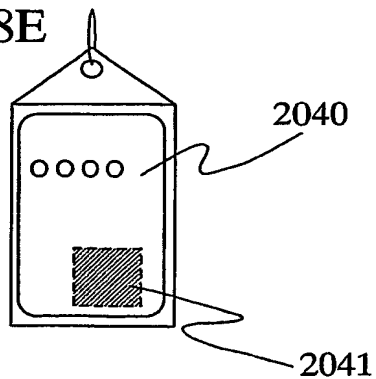


FIG. 18F

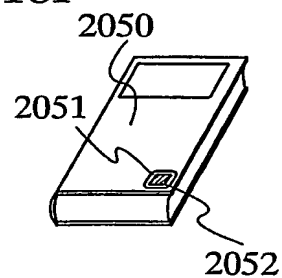


FIG. 18G

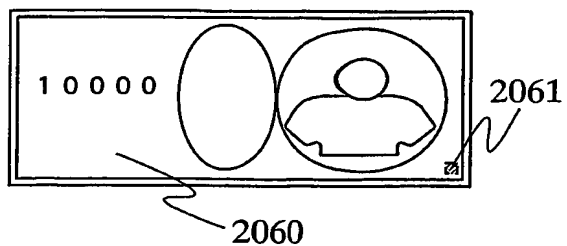
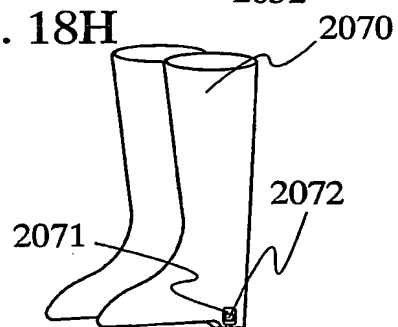
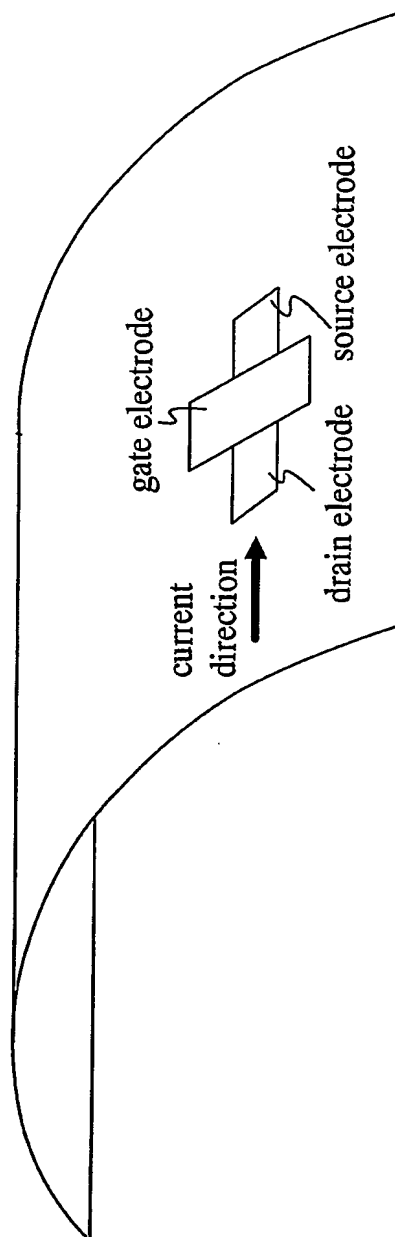


FIG. 18H



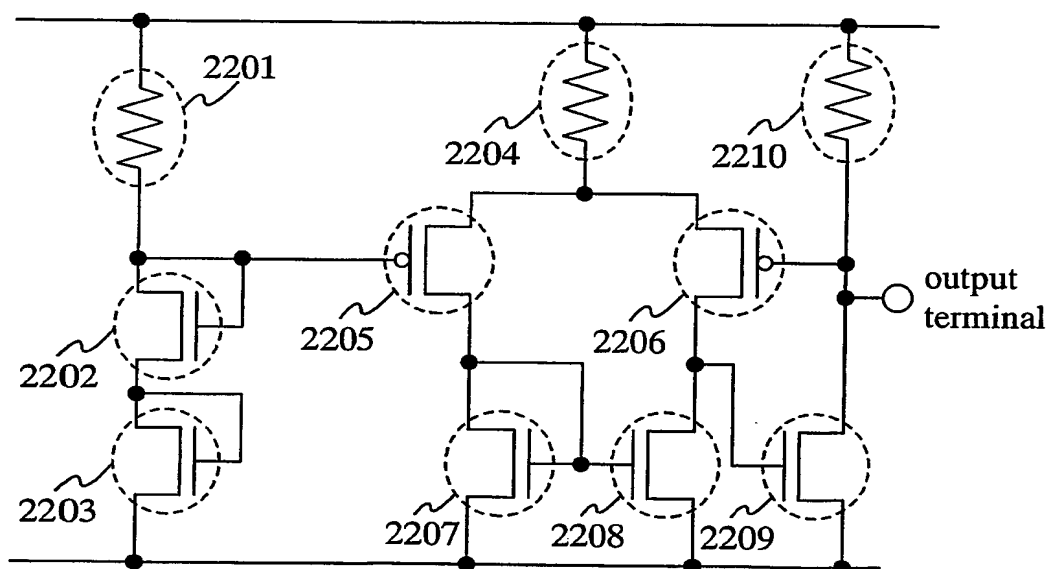
19/31

FIG. 19



20/31

FIG. 20



21/31

FIG. 21A

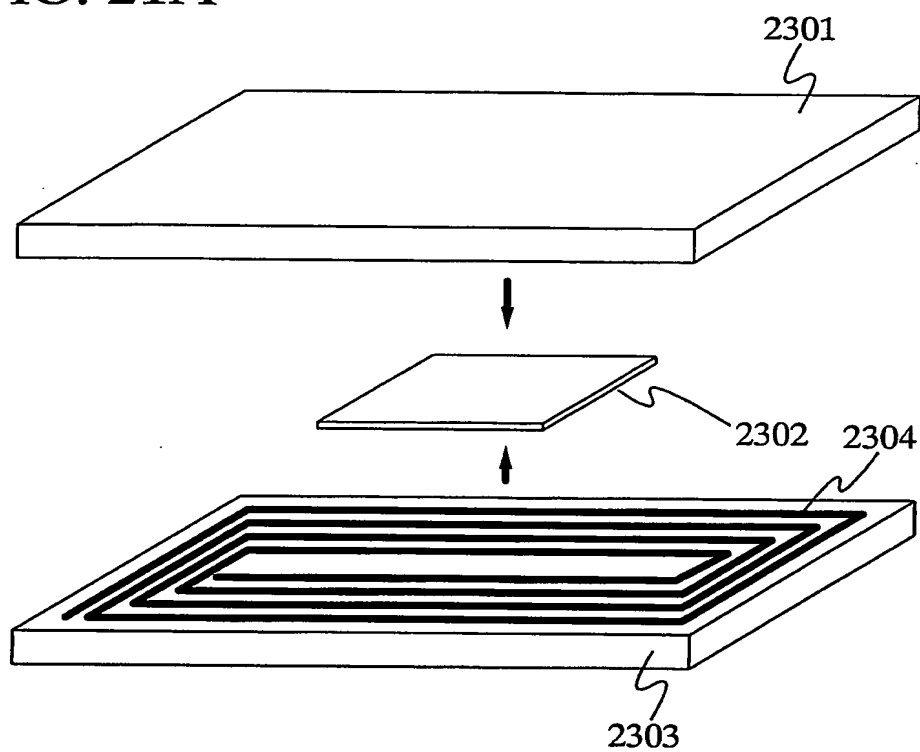
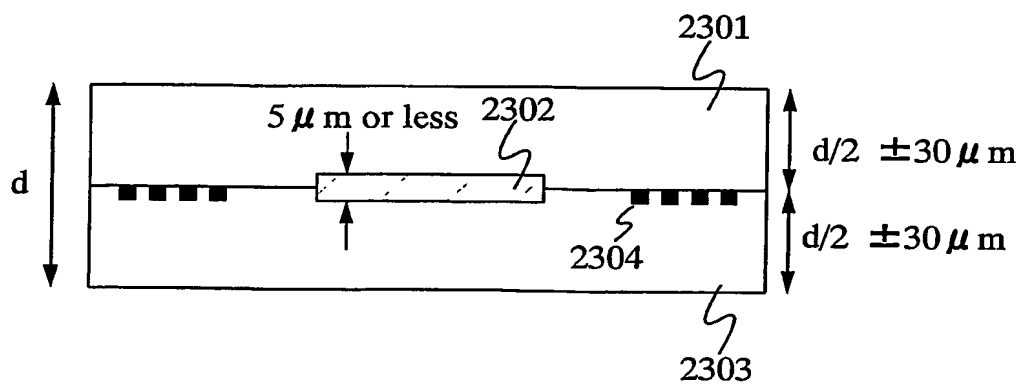


FIG. 21B



22/31

FIG. 22A

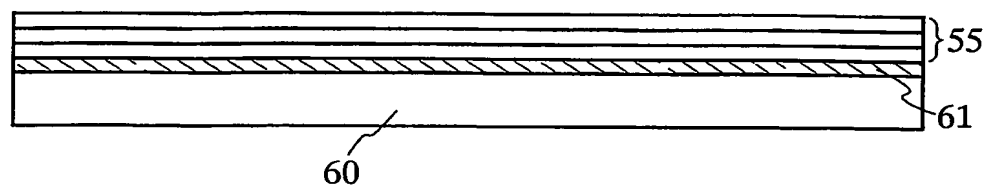


FIG. 22B

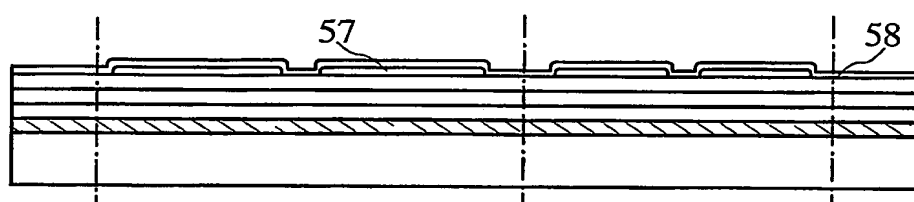


FIG. 22C

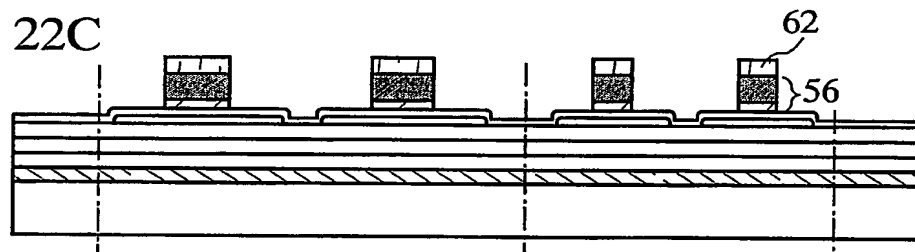


FIG. 22D

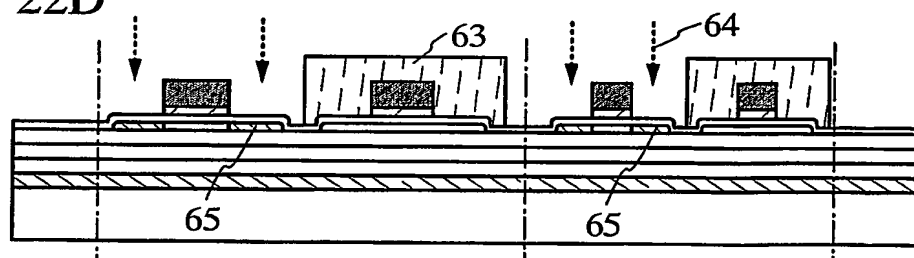
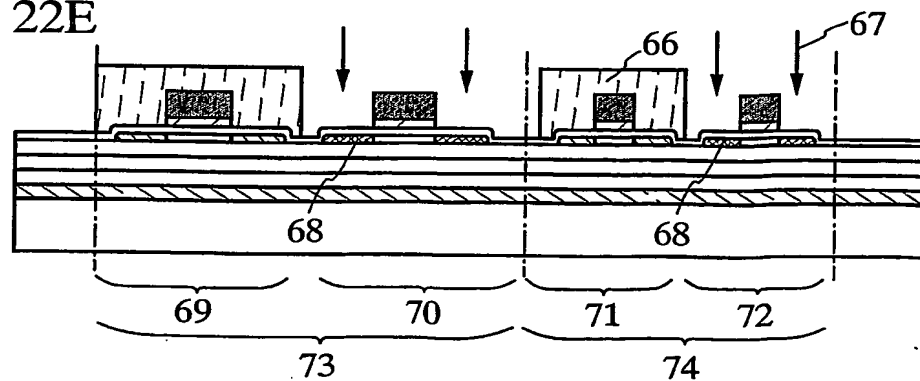


FIG. 22E



23/31

FIG. 23A

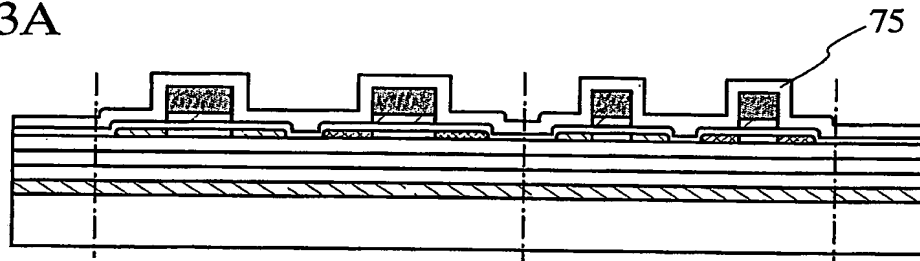


FIG. 23B

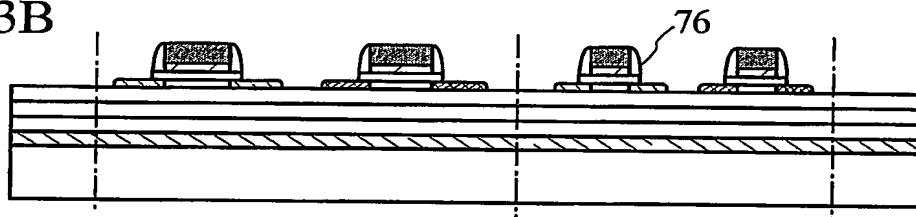


FIG. 23C

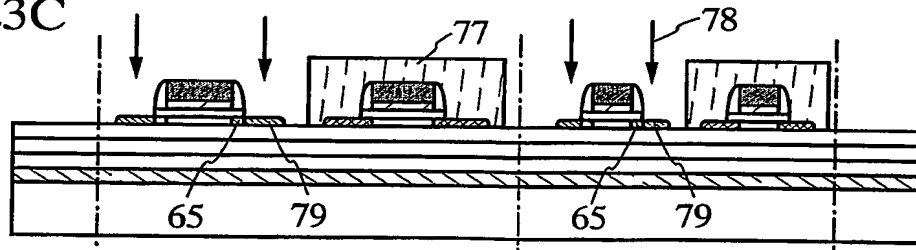
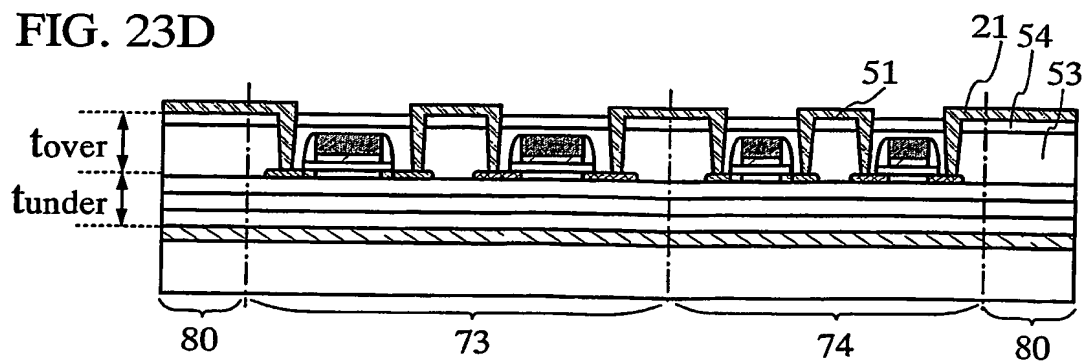


FIG. 23D



24/31

FIG. 24A

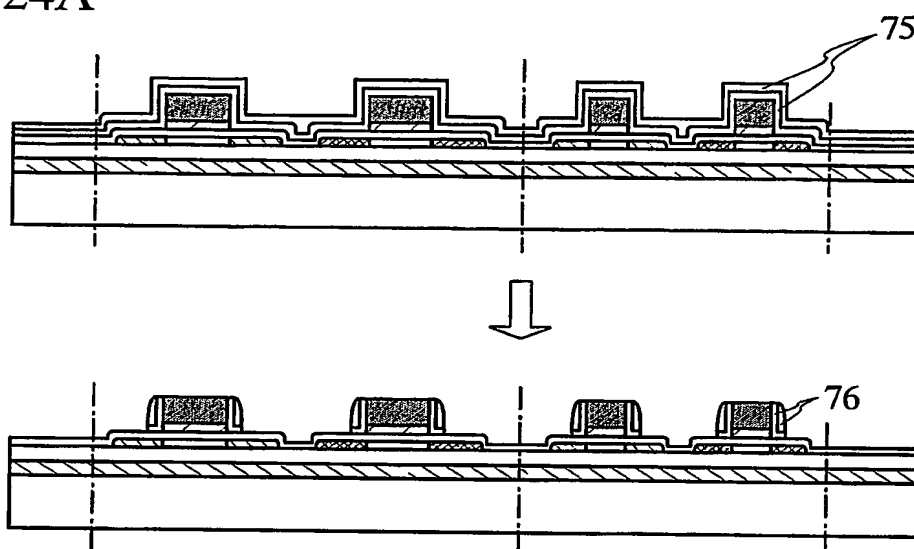
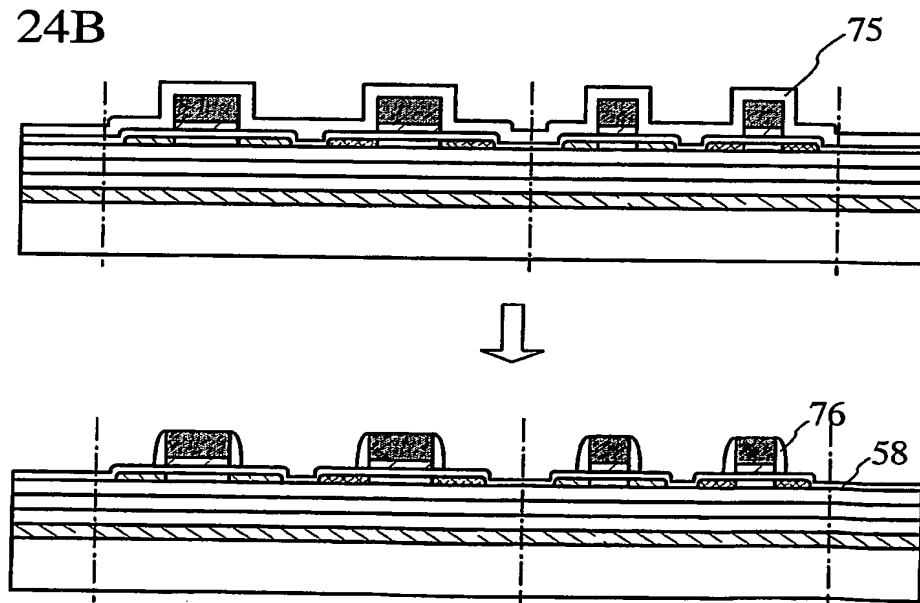
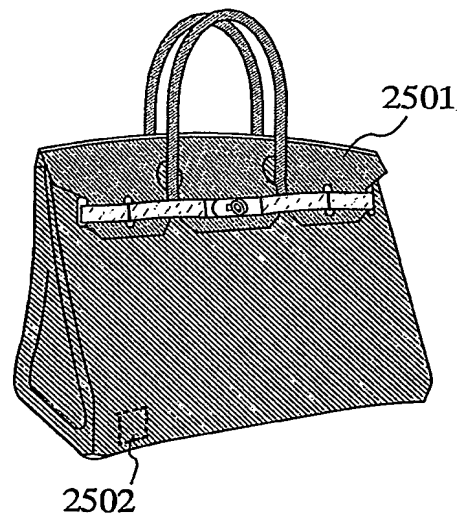


FIG. 24B



25/31

FIG. 25



26/31

FIG. 26A

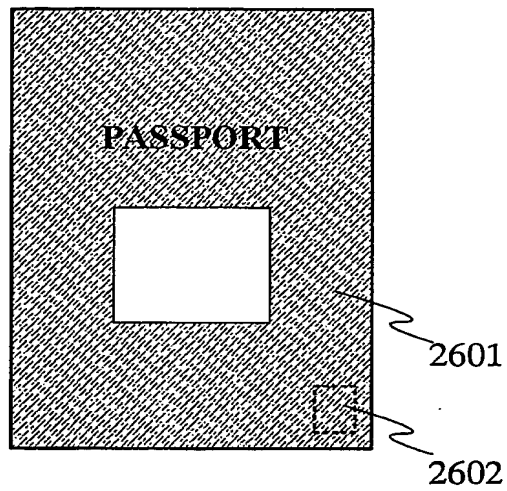
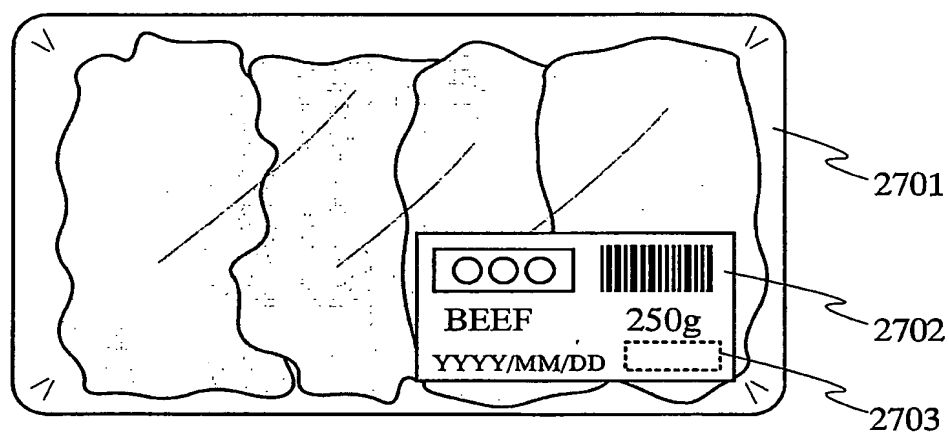


FIG. 26B

FIG. 26B is a rounded rectangular form with a border. It contains several input fields for personal information. The fields are: Name (two sets of two circles), Birth (six circles), Address (six circles), and a date field (YYYY/MM/DD). There is a large white rectangular area on the right side (2603). At the bottom, there are fields for Number (five circles) and Others (a line). A dashed rectangular area is at the bottom right (2604).

27/31

FIG. 27



28/31

FIG. 28A

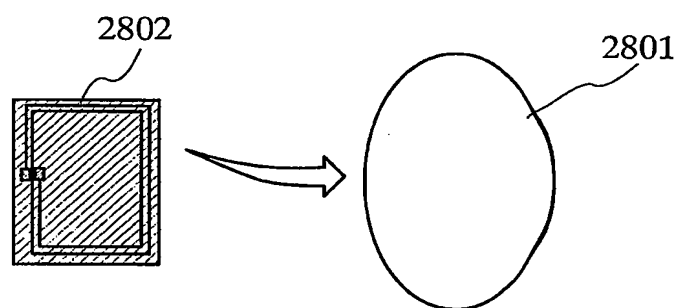
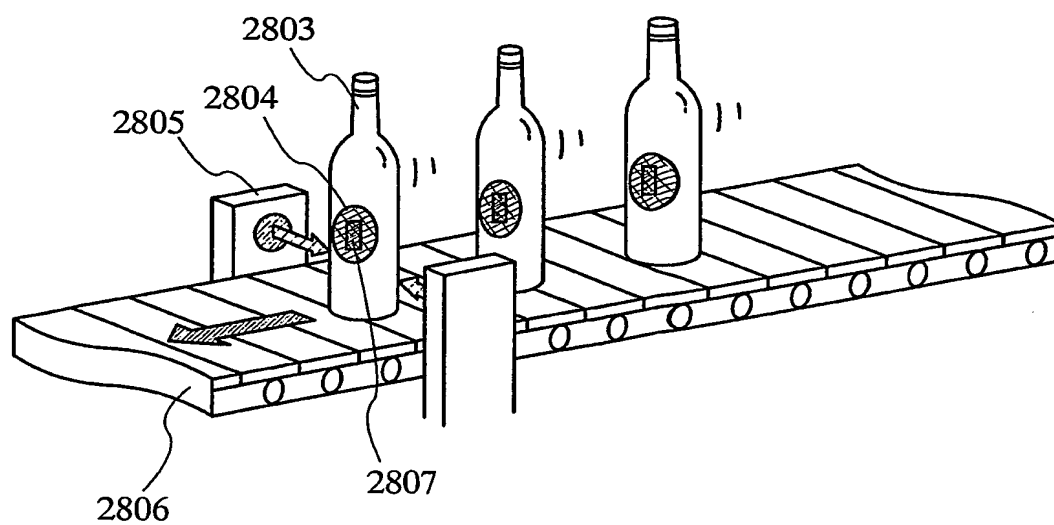
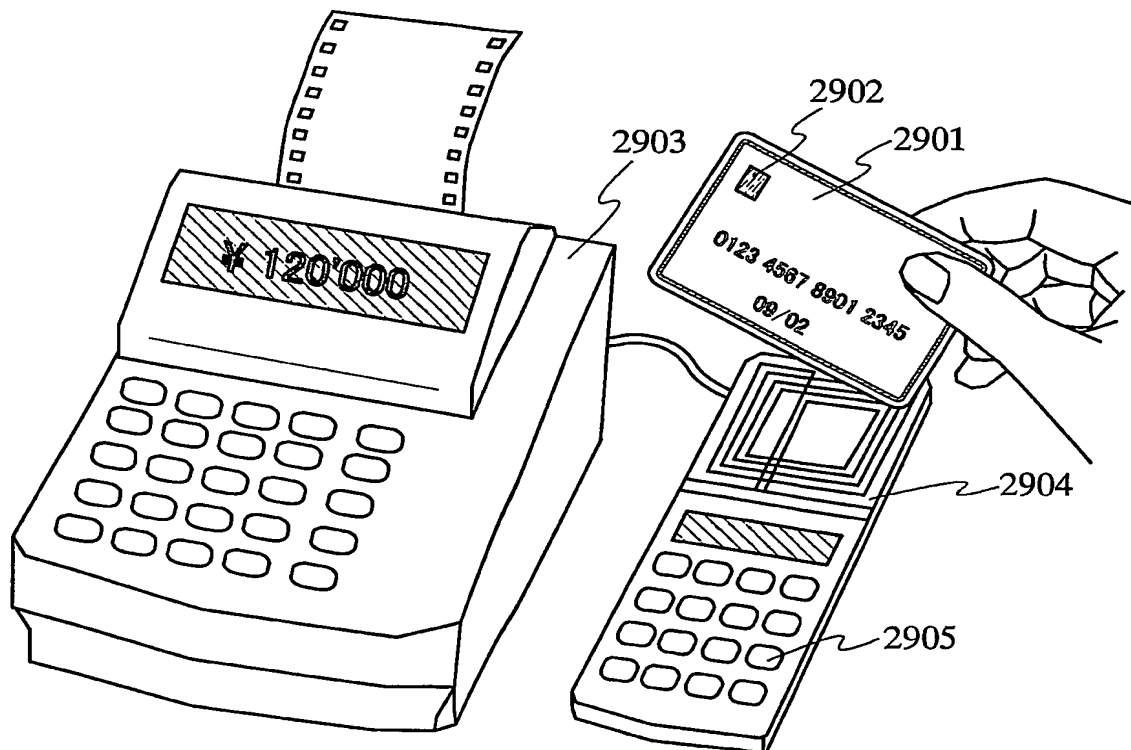


FIG. 28B



29/31

FIG. 29



30/31

EXPLANATION OF REFERENCE

5 21...connecting wiring, 51...wiring, 53...interlayer film, 54...protective film,
55...protective film, 56...gate electrode, 57...island-shaped semiconductor film,
58...gate insulating film, 60...substrate, 61...peeling layer, 62...resist, 63...resist,
64...impurity element, 65...low concentration impurity region, 66...resist,
67...impurity element, 68...high concentration impurity region, 69...N-channel TFT,
10 70...P-channel TFT, 71...N-channel TFT, 72...P-channel TFT, 73...CPU, 74...memory,
75...insulating film, 76...sidewall, 77...resist, 78...impurity element, 79...high
concentration impurity region, 80...terminal portion, 100...semiconductor device,
101...antenna circuit, 102...rectifying circuit, 103...stabilizing power source circuit,
104...modulation circuit, 105...amplifier, 106...logic circuit, 107...demodulation
15 circuit, 108...amplifier, 109...logic circuit, 110...FeRAM control circuit, 111...FeRAM
circuit, 200...semiconductor device, 201...antenna circuit, 202...rectifying circuit,
203...stabilizing power source circuit, 204...modulation circuit, 205...amplifier,
206...logic circuit, 207...demodulation circuit, 208...amplifier, 209...logic circuit,
210...memory control circuit, 211...memory circuit, 301...antenna coil, 302...tuning
20 capacitor, 303 and 304...diodes, 305...smoothing capacitor, 401...ID chip,
402...antenna unit, 403...interrogator, 404...bag, 500...memory cell, 501...bit line
decoder, 502...word line decoder, 503...plate line decoder, 504...precharge circuit, 505
to 512...N-channel memory transistors (transistors), 513 to 520...ferroelectric
capacitors, 521 to 524...bit lines, 525 and 526...word lines, 527 and 528...plate lines,
25 529 and 530...sense amplifiers, 531 and 532...sense amplifier selecting switches, 533
to 536...precharge switches, 537 to 540...bit line selecting switches, 541 and
542...input terminals, 543...output terminal, 700...memory cell, 701...bit line decoder,
702...word line decoder, 703...plate line decoder, 704...precharge circuit, 705 to
708...N-channel memory transistors (transistors), 709 to 712...ferroelectric capacitors,
30 713 and 714...bit lines, 715 and 716...word lines, 717 and 718...plate lines, 719 and

31/31

720...sense amplifiers, 721 and 722...sense amplifier selecting switches, 723 and
5 724...precharge switches, 725 and 726...bit line selecting switches, 727...input
terminal, 728...output terminal, 901...decode circuit, 902...delay circuit, 903...switch,
904...1-bit FeRAM circuit, 1000...substrate, 1001...antenna, 1002...circuit,
1003...substrate, 1004...antenna, 1005...circuit, 1006...substrate, 1007...antenna,
1008...circuit, 1009...substrate, 1010...antenna, 1011...circuit, 1012...substrate,
10 1013...antenna, 1014...circuit, 1100...substrate (top substrate), 1101...antenna
(antenna wiring), 1301...decode circuit, 1302...delay circuit, 1303...switch,
1304...volatile memory circuit, 2000...IC card, 2001...circuit portion, 2010...ID tag,
2011...circuit portion, 2020...product, 2021...protective film, 2022...ID chip,
2030...housing, 2031...ID chip, 2040...shipping tag, 2041...ID chip, 2050...book,
15 2051...protective film, 2052...ID chip, 2060...bill, 2061...ID chip, 2070...shoe,
2071...protective film, 2072...ID chip, 2201...resistor, 2202...transistor,
2203...transistor, 2204...current supply resistor, 2205 to 2209...transistors,
2210...resistor, 2301...flexible protective layer (protective layer), 2302...ID chip,
2303...flexible protective layer (protective layer), 2304...antenna, 2501...bag,
20 2502...ID chip, 2601...passport, 2602...ID chip, 2603...driver's license 2604...ID chip,
2701...package, 2702...display label, 2703...ID chip, 2801...label, 2802...ID chip,
2803...beer bottle, 2804...label, 2805...writer device, 2806...conveyor belt, 2807...ID
chip, 2901...IC card, 2902...ID chip, 2903...register, 2904...reader/writer, 2905...key,
4000...substrate, 4001 and 4002...base films, 4003 to 4005...island-shaped
25 semiconductor layers, 4006...gate insulating film, 4100 to 4102...gate electrodes, 4103
to 4108... low concentration P-type impurity regions, 4109 and 4100...high
concentration N-type impurity regions, 4111 to 4114...high concentration N-type
impurity regions, 4115...interlayer insulating film, 4201...bottom electrode layer,
4202...ferroelectric layer, 4203...top electrode layer, 4300 to 4306...wirings,
30 4307...interlayer insulating film, 4308...protective film